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ABSTRACT

In a survey of the recent past in African education several problems are identified, including the widespread use of Western patterns which are irrelevant to the African situation, undue dependence on the examination system, emphasis on secondary rather than on primary education, the growing difficulty of finding employment for the students when they finish school, and the continuing explosive growth of population. The need for an educational system more in tune with specifically African needs is examined, in particular the question of providing an agrarian bias in primary education. Separate chapters are devoted to primary education, teacher education, and secondary schools. The four major priorities for the next decade are identified as: 1) casting the common examination system in a far humbler role; 2) reforming salary structures inherited from colonial regimes; 3) finding ways in which the profession can help serve the vast number of young Africans who are not in school, especially those who have never attended school or who have dropped out; and 4) deciding what type of person the new African is intended to be and deriving from this the educational ingredients required to produce that type of person. Finally, a list of ten proposals suggests ways in which these objectives may be achieved. Refer to SP 005 335. (MBM)

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ENHANCING THE CONTRIBUTION OF FORMAL EDUCATION IN AFRICA:

Primary Schools, Secondary Schools and Teacher Training Institutions

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by

John W. Hanson

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ENHANCING THE CONTRIBUTION OF FORMAL EDUCATION IN AFRICA: PRIMARY SCHOOLS, SECONDARY SCHOOLS AND TEACHER TRAINING INSTITUTIONS

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The Recent Past

In Africa the period immediately prior to and following the wave of independence has seen each state put enormous faith in its system of formal education as *a* principal, if not *the* principal, means of achieving economic development and of guaranteeing the benefits of political independence. The institutions in which confidence has been placed were necessarily those which had been established under the tutelage or control of former colonial authorities. By and large, both the institutions in question and the pattern of relationships between them closely resembled those which prevailed in the Western World. At the point of independence neither the elites who took over the political system nor the elites who assumed control of the educational system questioned the basic nature of the latter or the underlying assumptions upon which it was based. When arguments later developed, as with respect to sixth forms and the most appropriate entry point to universities, for example, these appear to have arisen chiefly from disparities between educational ladders which existed in the countries in which the differing leaders had received their own educations. Such arguments centered on structure and finance, influenced somewhat to be sure by notions of the relative importance of "depth" and "breadth" in education and the respective priorities to be given to quantitative output and academic quality—or, more precisely, disagreements as to how many times and how rigorously the educational product should be screened before being placed on the market. Both political leaders and educators assumed that the benefits of economic development and political modernity could be ensured through Western schools, and all agreed that considerable quantitative expansion of the system, especially at the secondary and tertiary levels, was urgently called for.

At the same time, there was verbal acknowledgment by many educators and national leaders that the precise "content" of the system they had inherited was inappropriate to Africa, their dissatisfaction increasingly being expressed in the criticism that content was unrelated to African "needs." The weaknesses which were most commonly pointed to in respect to inappropriateness were overemphasis on humanistic or arts subjects and a corresponding neglect of science or vocational courses; the disproportionately small enrollments which existed at the secondary and tertiary levels at the point of independence; the implicit denigration of African culture through omission or limited attention to the African environment, African political forms, and African thought and leaders; and the need to place educational development more directly in the service of national policy, particularly through increasing the extent of national control (as contrasted, for example, with mission control) over educational expansion. It was judged that remedying most of these weaknesses could best be achieved by the replacement of expatriates by indigenous educational personnel—in ministries, schools, and universities. However, it is becoming increasingly apparent that much more than this is required. African educators themselves often understandably mirror the limitations of their expatriate counterparts.

Nonetheless the past decade has witnessed notable progress in overcoming shortcomings of these types. First, the content of school programs has been progressively Africanized and localized, and such formal institutions as the African Examinations Councils, the Institutes of Education, and the Curriculum Development Centers have provided instrumentalities for accelerating such change. In some instances, local presses have come into being to help diffuse and stabilize change. In other instances, foreign presses (notably British and French) have found it in their interest to contribute to this process. Second, special attention has been given to expanding and modernizing mathematics and science programs, first in the secondary schools and more recently in the primary schools, and to increasing the proportion of students specializing in these fields in secondary schools and universities. At the same time, most nations have committed themselves in principle to diversified or multi-purpose secondary schools, introducing either pre-vocational or vocational courses in what had formerly been conventional grammar schools. Such courses have, however, often been low in the esteem of both pupils and teachers, poorly related to actual employment opportunities, and both expensive and inadequately staffed. Third, the record of most African nations in achieving or surpassing national enrollment targets within the scope of national development plans has been notable.[1] These successes have been accomplished after the earlier abandonment of enrollment targets such as those for primary and secondary education adopted at Addis Ababa a decade ago. The latter targets were found to be both unrealistic in their demands on personnel, facilities and finances and out of line with the employment opportunities that could be forecast for the foreseeable future. Ministries of education have now almost without exception come to include planning officers or offices, and increasingly, educational plans have come to be viewed as parts of larger national plans of social and economic development.

Finally, teaching staffs, posts in school administration, and the personnel of Ministries of Education have been progressively localized. In most nations, the *percentage* of the well-qualified staff who are expatriate is now declining and, in the next two or three years, the *absolute* number of expatriates required to maintain present proportions of well-qualified staff in African secondary schools and training colleges will begin to decline rapidly. Residual needs for teaching personnel are already growing increasingly specific and persist chiefly in the need for technical teacher educators, well-qualified teacher trainers in academic teaching fields, and (in countries which have not made a direct attack upon the problem) teachers of science, mathematics, technical subjects, English (as a second language) and French.

The growth of formal education which has been achieved in Africa is nothing short of phenomenal. When the education provided by the schools is measured against some formal criteria of quality (e.g., percentage of passes at various levels on national or international examinations), it becomes evident that this growth was often achieved at some cost in terms of quality. When measured against other quantitative criteria of quality (e.g., the percentage of primary school teachers who possess some training), the turning point between a declining and an ascending curve of "quality" has been approached or passed. Furthermore, when these standard measures of quality are balanced off against other obvious measures of quality—the "relevance" of the content to Africa or the absolute number of persons qualified to enter institutions at the next level of education—the sacrifice which expansion and localization have exacted in terms of "quality" is less clear than is sometimes maintained, especially by those viewing the system from the outside. All this has been accomplished in a period of time so short in most countries that those who first entered school with the coming of independence have not yet completed their secondary education. Anyone familiar with the history of education and the length of time regularly required to change educational systems where changes at one grade level are desirably built upon and lead to changes at other grade levels will recognize that this is a remarkable record of achievement for countries undergoing relatively peaceful social change. It is a record which has been achieved despite limited political and administrative capacity in the systems involved and using personnel who often lacked the skills and knowledge which can be counted upon in more economically and educationally privileged nations.

Definite achievements granted, it must be said that the more fundamental questions with respect to formal education have still seldom been fairly asked or faced, (Nyerere's statement on *Education for Self Reliance* stands as a notable exception to this generalization.) Western molds, in which each level of the educational system is designed to prepare youngsters for the next higher level (and hopefully but secondarily to ensure that those "selected out" possess academic but not necessarily economic or political literacy) have not been broken or even significantly altered. Those who have been "selected out" of the mainstream of formal education have with increasing frequency found themselves better educated for frustration than contribution. Examination systems still dominate formal education, guided by a continuing, albeit waning, faith in some mythical international standard. Although the governments of the African nations have claimed and assumed greater control over the operation of schools than formerly prevailed, the civic and developmental potential of education—a potential which may be realized not only by altering the topics of instruction in the syllabus but by changing the "hidden teacher" implicit in the organization of the classroom and learning—is incompletely realized. In short, the expansion of education and the types of changes made to date have accomplished less than was expected of them in ensuring self-sustained economic development or realizing the benefits of social and political stability which it had been hoped would flow from freer and wider participation in the political process.

In that retrospect which the end of a decade encourages, we must admit that if the problems of economic and political development have not been dissolved by the magic of education, this has been in part the result of unrealistic expectations as to what schools might in and of themselves accomplish. But in part it has also been the result of a failure to examine education more fundamentally and to move toward altering more radically both the goals of education and the process of learning. This can only be done in the light of understanding what kinds of people the process of development requires and what kind of person the new African citizen is intended to be. The significant challenge in the decade ahead will not be that of further expansion of formal schooling but that of finding ways to increase the developmental thrust of the education given without increasing personal demoralization or social disorganization. This is inevitably a far more difficult challenge than that which was posed by expansion.

Increasing the developmental thrust of education is becoming ever more urgent because of the high and rising costs of formal schooling. Since independence, the recurrent costs of education have been rising many times as rapidly as the per capita incomes of citizens in African nations.[2] Increasingly, the steps taken to improve the quality of education (i.e., bringing teacher salaries into line with those of civil servants or providing them with fringe benefits and pensions), appear to ensure a continuing upward spiral in educational costs. Both the in progress expansion of education and this upward spiral in the recurrent cost of the teacher promise to tax the resources of the African nations to the utmost. Consequently, if there is to be more radical or fundamental rethinking of formal education than has been possible during the past decade, it must be supported in part from outside sources. Hopefully, rethinking will be directed primarily toward enhancing the relevance of the school to modernizing societies and toward improving the quality of education when quality is measured by criteria which are more socially relevant than examination poses. This principle applies with equal force to primary, secondary and higher education.

The new decade thus necessarily calls for a considerable shift in priorities on the part of all concerned. The priorities which appear to have governed external aid to formal education during the past decade have generally been based upon the same assumptions which guided educators in the African nations themselves. By and large, aid has been directed at the rapid expansion of the formal education system, at ensuring academic quality by providing numerous expatriate teachers and accelerating the production of local teachers, and at updating course content and righting

"imbalances" in conventional school programs, especially through assisting in the introduction of science courses and prevocational and vocational programs. The decade ahead should not only see shifts in priorities which will allocate a higher percentage of local and external resources to ways other than formal schooling for developing and using human resources, but it should see accompanying shifts in the priorities which have guided support within formal education. External aid must of course fall within the limits of local initiatives, but it is most likely to be needed to support initiatives which give promise of introducing radical changes in the system. Hard-pressed African governments will find it extremely difficult to finance these. But the generation of ideas, or the introduction of pilot projects, is of little promise if equal attention is not given to means whereby seed ideas may grow into healthy, fundamental changes in national education programs. In short, this calls for increased *support of those African educational institutions, organizations and arrangements which show particular promise for intelligently examining and improving existing programs, for generating innovative ideas and programs of action, for evaluating innovations, for diffusing innovations and for gaining acceptance of innovations.* Now that we are less sanguine about the role of formal schools in ensuring development, the types of innovations which deserve greatest attention are those which promise to enable formal schools to play roles which are more clearly coordinated with those played by other institutions involved in nation-building.

One essential feature of these new roles will be that they must give greater attention to developing values and attitudes associated with modernization and to inculcating a nation-building ethic in students coming from the schools. Although the schools have done far better in the former than they are often given credit for, the length of time in which they have impact upon pupils and the age at which they first deal with persons should permit them to exercise greater impact than they have hitherto exercised.[3]

A second feature will require giving new attention to possible transactions between the formal education system and the informal education systems as these operate in support of common goals. Transactions between the school on the one hand and youth organizations, farmers cooperatives, businesses, and extension services are conspicuous in Africa chiefly by their absence.

Taking these priorities seriously implies that less internal and external support should be devoted to quantitative expansion designed to produce high level manpower. All involved should furthermore look forward to a period in which attention rapidly shifts away from using expatriates to fill teacher gaps in secondary schools, transplanting foreign vocationally oriented institutions, or ensuring that large numbers of students are prepared to succeed at higher levels of the educational ladder. Problems growing out of the public demand for further quantitative expansion of formal education will no doubt continue to plague most African countries, and these are problems which they will have to solve while achieving a wise balance in the use of their own resources. Problems of maintaining or enhancing academic quality in the conventional sense will continue as they always do in formal education, but donors should be increasingly disposed to support African states in their search for inexpensive and innovative means of developing *a more appropriate* system of education.

Educational *appropriateness* is unfortunately not a quality which can always be immediately identified; the consequences of education are pervasive and often long term rather than obvious and immediate. Despite difficulties which arise in measuring consequences, appropriateness as a criterion of educational change must apply to the effective and efficient relationship of ends, means and conditions. Although schools are social institutions and may be legitimately called upon to serve social ends, they are not necessarily the means best able to serve *all* social ends; or, being sound means of serving a given end in one set of conditions or at one stage of their own development, they may not be an equally appropriate means to serve these ends at another time or place. Educators are often accused of being imperialists because they seize for the school the widest possible range of ends; but in Africa the visibility and accessibility of schools to national policy has led to a situation in which the role of the imperialist has been more often thrust upon overworked educators than sought out by them. Schools at all times serve a wide and often only vaguely understood range of purposes and ends, and much of the current discouragement of development experts with schools is that they have not been able to adjust rapidly to the whole new set of "development ends" with which they are suddenly being laden. Although ends appropriately alter and condition means, in a real world means must also alter and condition ends; and both must be subject to critical conditions which surround them and largely limit what they can do.

Within the general framework provided by the all-embracing goal of accelerating the pace of developmental change, the conditions which are most critical in governing the rethinking of formal education in Africa for the decade ahead are the predominantly rural nature of the societies which African schools are serving, the rapid growth of population in a context of limited financial resources and employment opportunities, and the fragile political structures and restricted capacity to contain conflict which exists in most African states. These conditions, and the

developmental priorities they imply, are treated in other papers in this series, but the particular importance of certain aspects of them for schools merits their brief review here. Even in considering such conditions, however, two general cautions should be borne in mind. First, it is probably true that schools can and do change the social order; but they regularly do so only when aligned with other social forces and organizations operating in the same direction. Second, schools as organizations have built-in structural characteristics which are highly resistant to change. They are, at best, not entirely mutable organizations and, perhaps even more important, the time span required for instituting even modest changes throughout a national system now appears much greater than we have been willing to acknowledge. No counsel of despair is intended, rather a plea that those concerned with African education give far greater attention to *the process* of change than they have done to date.

Critical Contingent Factors Affecting Education

The Agrarian Economy and Education.

In almost all African nations education is supported by and must serve populations which are overwhelmingly rural. Among independent black African states, the rural population and the economically active population in agriculture is regularly between 80 and 95 per cent of the total. (See Table 1 on the following page.) Although urban population growth is at present excessively rapid, surpassing the capacities of cities to provide either employment or services for new residents, this growth is not rapid enough to absorb increases in population. It must be expected that the absolute number of persons directly dependent upon agriculture for their livelihood will increase throughout the coming decade.[4] This remains true although most products of the formal school system would prefer wage earning employment in the modern urban sector of the economy. There is thus a *prima facie* case for harnessing education to agricultural development. It is extremely difficult to judge how schools can be so harnessed, and it is not surprising that schools are frequently charged with paving the highways to the city rather than clearing the pathways to the field.

The effects of the present formal education system upon rural development have been examined but with equivocal results, probably because the effects are indirect and diffuse. This is especially true of primary schools. It would seem logical that primary schools should prepare their pupils to lead more productive lives in rural areas where the majority will live out their lives. Even among rural inhabitants now migrating to cities, an apparently large proportion return to their villages after unsuccessfully searching for employment. The history of African education has been punctuated with attempts to put primary education directly and *explicitly* in the service of agricultural production. To date, most such attempts have been judged failures. Parents and children have strongly resisted changes in the school program which promised to tie children to the rural area; teachers have been ill-prepared and reluctant to handle agricultural subjects or school farms; and national examinations have been barriers both to the introduction of "practical work" into the school day and to the local adaptation of programs, which a successful bias toward agriculture would require. Attention given to improving agricultural techniques seems to eclipse other relationships with rural life which might be equally important—understanding and skills in relation to health, sanitation, marketing, or civic affairs. It appears likely that primary schools will only increase their success in orienting their programs to rural development as well-educated and well-trained teachers committed to rural development become available, as rural life becomes more attractive vis-a-vis urban life, and as the improbability of finding urban employment sufficiently outweighs the differential in rewards which currently leads children to seek employment in cities.

Even though past attempts to give the school an explicitly "rural bias" have often proved abortive, primary schools have probably had a far more important influence on rural development than they are given credit for. Although traditional shareholder farming (geared largely to subsistence) is not regarded highly as a vocation by primary school leavers, school leavers do adapt their aspirations (as well as their expectations) to the realities of the world that confronts them and studies increasingly suggest that African school leavers are not uncompromisingly hostile to farming as a vocation when they see the possibility of improved practices and greater financial rewards. (They continue to react negatively to traditional farming and the lack of rewards of such farming with which they are all too familiar.)[5] Improvements in the profitability of agriculture and the quality of rural life would no doubt see yet more receptive attitudes develop. Furthermore, the long term effects of primary schools upon rural communities are more likely positive than neutral. There is now evidence to suggest that adults who have participated in modern institutions are both more receptive to new ideas and willing to innovate on their own.[6] The formal schools are one of the most effective means of providing modern institutional experience, and receptivity to new ideas

TABLE 1

Agricultural Population and Population Economically Active In Agriculture (1965 Estimates)

Country	Total Population (000's)	Agricultural Population (000's)	Percent in Agriculture	Economically Active Population Total (000's)	In Agriculture (000's)	Percent in Agriculture
Angola	5,154	4,300	83	2,420	1,985	82
Burundi	3,210	3,050	95	1,125	1,070	95
Cameroon	5,229	4,368	84	2,520	2,115	84
Central African Republic	1,335	1,135	85	617	555	90
Chad	3,307	3,128	95	1,475	1,355	92
Congo (B)	840	546	65	380	245	64
Congo (K)	15,627	10,945	70	7,655	5,280	69
Dahomey	2,365	1,989	84	1,005	845	84
Ethiopia	22,699	19,360	89	8,160	7,180	88
Gabon	463	388	84	235	195	84
Gambia	330	290	88	140	120	86
Ghana	7,740	4,642	60	3,160	1,770	56
Guinea	3,510	2,970	85	1,725	1,465	85
Ivory Coast	4,200	3,610	86	1,975	1,700	86
Kenya	9,365	7,821	84	3,510	3,090	88
Liberia	1,076	856	80	425	340	80
Libya	1,617	647	40	420	147	35
Madagascar	6,059	5,090	84	3,040	2,555	84
Malawi	3,940	3,158	80	1,235	1,000	81
Mali	4,480	4,030	90	2,105	1,895	90
Mauritania	1,050	936	89	440	390	90
Mozambique	6,957	4,800	69	2,610	1,800	69
Namibia	574	315	55	225	125	55
Niger	3,513	3,270	93	1,420	1,365	96
Nigeria	58,480	46,200	79	25,665	20,530	80
Rhodesia	4,260	3,195	75	1,540	1,125	73
Rwanda	3,110	2,950	95	1,235	1,175	95
Senegal	3,490	2,605	75	1,475	1,090	74
Sierra Leone	2,367	2,105	89	995	895	75
Somalia	2,500	2,224	89	940	835	89
South Africa	17,867	5,200	29	6,430	1,865	29
Sudan	13,540	10,425	77	6,365	4,965	78
Tanzania	11,674	11,090	95	4,695	4,460	95
Togo	1,638	1,295	79	700	555	79
Tunisia	4,451	2,670	60	1,680	1,055	63
Uganda	7,551	6,870	91	2,795	2,490	89
Upper Volta	4,708	4,050	86	2,025	1,760	87
Zambia	3,710	3,005	81	1,150	930	81

SOURCE: *FAO Production Yearbook, 1969*, Vol. 23, Rome: Food and Agriculture Organization of the United Nations, 1970, p. 23.

appears to result whether or not formal agriculture is a part of the school program. Other long term effects of the drive for schooling are more tangential. In some countries the spirit of self-help appears to have been born in the struggle to create schools, and the important task now is to keep that spirit alive and redirect it into related cooperative efforts.[7] Moreover, it would appear that the schools have played and are continuing to play a role in extending the cash economy, a major element in rural transformation. This would be true, if for no other reason, because schools have provided a major incentive (perhaps *the* major incentive) for shifting a larger proportion of the farming effort into cash cropping initially in order to pay school fees. The wider knowledge of the goods and values available for choice which comes with schooling has, however, probably had the most pervasive—albeit most difficult to measure—effect.

It is, nonetheless, doubtful if formal education is now making the impact upon rural development which it will be capable of making in the decade ahead, especially should a shift in government priorities result in an improvement in the quality of rural life or provide more visible incentives for rural development. The potential for increasing this impact in countries such as Tanzania, where there is a national ideology stressing rural development and a political mechanism for spreading it, is much greater than elsewhere. But part of the potential also comes from the nature of farming and the nature of the African farmer. Unlike the industrial or manufacturing case, the process of decision-making in agriculture is highly diffuse. The individual farmer constantly makes managerial decisions—the allocation of land to different uses, the distribution of labor efforts, and marketing, storage or consumption of produce. The primary school does not serve a clientele which is currently making these decisions, but it does serve a clientele which will eventually make them. Thus the challenge it faces in reinforcing the receptivity to change in its clientele and in providing that clientele with a range of knowledge and intellectual skills which might enlighten decisions is great. This is true whether or not the primary school attempts to teach farming techniques per se. Furthermore, the African farmer is not tied to a particular piece of land or to particular practices. There is increasing reason to believe that the African farmer is quite susceptible to change and that practices change with relative rapidity when cash incentives change and the actual circumstances of his farming are borne in mind.[8] Should the primary school find ways of reinforcing the attitudes it has helped develop and the knowledge it has imparted (as, for example, through Young Farmers Clubs or the 4-K program in Kenya), its effectiveness may prove much greater than at present. This will require the coordination of services hitherto divided by inherited administrative systems. Even without some means of follow-up at its disposal, there may be much that can be done within the primary school itself to develop further the values, intellectual skills, and types of knowledge which would be useful in rural communities. Priorities for the primary school are discussed in a later section of this paper.

The Population Explosion and the Limited Employment Market.

Rapid population growth probably poses the most intractable problem which will confront African education in the decades ahead, for there seems little possibility that the thirst for education which has developed will suddenly abate. Population explosions pose problems to educational systems in any nation, but the low per capita incomes in the African nations and the extremely high cost of education in relation to these incomes makes attempts at even keeping the rate of growth of enrollments (at least at the primary school level) commensurate with population growth rates (much less reducing the percentage of unschooled children in forthcoming age groups) prohibitively expensive.[9] Education becomes even more expensive because of the distribution by age of populations in African countries, distributions which mean many more children of school age per working adult than is the case in most developed countries. The rate of dependent population to national working age populations is indicated in Table 2 below:

TABLE 2

Dependency Ratio in Africa
Population Under 14 Years and 65 and Over as a Percentage of the 15-64 Age Population in Selected African Countries

Year	Ghana	Kenya	Nigeria	Sudan	Tanzania
1950	68.0	77.3	86.5	83.8	83.4
1955	78.8	82.1	86.2	92.7	80.9
1960	91.6	93.0	83.5	93.4	83.5
1965	98.8	100.4	79.2	96.9	87.1

SOURCE: Adapted from Frederick H. Harbison, *et. al., Quantitative Analyses of Modernization and Development,* Industrial Relations Section, Princeton University, 1970, pp. 209–224.

Even though most African nations have now abandoned the hope of providing school for all children who reach the national school age within the foreseeable future, the prospects of achieving even such a modest goal as providing schooling for a constant percentage of youngsters appear increasingly dismal in many countries. (See Table 5 on page 13.)

An even more distressing feature of present rates of population growth is, however, that population is increasing at such rates that economies are finding it increasingly difficult to absorb populations in useful employment. Were African populations to continue to grow at their present rates during the next century, African population densities would be twice those which are confronting Asia today.[10] Recent studies have suggested that, quite out of keeping with the common belief, population pressure may already apply to as much as half the land and half the population of Africa. This clearly means that unless more effective means are found of relating human resources to other resources, the chance for this century proving one in which the standard of living of the common man will improve in Africa is limited indeed.[11]

To date, the formal school has been looked to as a means of relieving pressure on land and preparing children to enter wage employment, employment which it was believed would expand rapidly with economic development. The experience of the past decade has, however, made it clear that lack of school education is not the main barrier to a person's finding employment in the wage sector of the economy: the main barrier is that enough jobs commensurate with educational attainment of those with primary and secondary education are simply not there.

TABLE 3

Demographic Indicators for African Countries: Population, Birth Rate, Death Rate, Population Growth Rate, Population Under 15 Years, and Projected Population, 1985

Region or Country	Total Population 1970 Estimate (millions)	Births per 1,000 Population	Deaths per 1,000 Population	Rate of Growth of Population	Number of Years to Double Population	Population Under 15 Years (%)	Projected Population, 1985 (millions)
AFRICA[a]	334	47	20	2.6	27	44	530
WESTERN AFRICA							
Dahomey	2.7	54	26	2.6	27	46	4.1
Gambia	0.4	39	21	1.9	37	38	0.5
Ghana	9.0	47	20	2.9	24	45	15.9
Guinea	3.9	49	26	2.3	31	44	5.7
Ivory Coast	4.3	50	25	2.4	29	43	6.4
Liberia	1.2	44	25	1.9	37	37	1.6
Mali	5.1	50	25	2.4	29	46	7.6
Mauritania	1.2	45	25	2.2	32	–	1.7
Niger	3.8	52	25	2.9	24	46	6.2
Nigeria	55.1	50	25	2.6	27	43	84.7
Senegal	3.9	46	22	2.4	29	42	5.8
Sierra Leone	2.6	44	22	2.3	31	–	3.9
Togo	1.9	50	24	2.6	27	48	2.8
Upper Volta	5.4	49	28	2.1	33	42	7.7
EASTERN AFRICA							
Burundi	3.6	46	26	2.3	31	47	5.3
Ethiopia	25.0	–	–	2.1	33	–	35.7
Kenya	10.9	50	20	3.1	23	46	17.9
Madagascar	6.9	46	22	2.7	26	46	10.8
Malawi	4.4	–	–	2.5	28	45	6.8
Rwanda	3.6	52	22	2.9	24	–	5.7
Somalia	2.8	–	–	2.4	29	–	4.2
Tanzania	13.2	47	22	2.6	27	42	20.3
Uganda	8.6	43	18	2.6	27	41	13.1
Zambia	4.3	51	20	3.0	24	45	7.0
MIDDLE AFRICA							
Cameroon (West)	5.8	50	26	2.2	32	39	8.4
Central African Republic	1.5	48	25	2.2	32	42	2.2
Chad	3.7	45	23	2.4	29	46	5.5
Congo (Brazzaville)	0.9	41	24	2.2	32	–	1.4
Congo (Dem. Rep.)	17.4	43	20	2.2	32	42	25.8
Equatorial Guinea	0.3	–	–	1.3	54	–	0.4
Gabon	0.5	35	25	0.9	78	36	0.6
SOUTHERN AFRICA							
Botswana	0.6	–	–	2.2	32	43	0.9
Lesotho	1.0	40	23	1.8	39	43	1.4
Swaziland	0.4	–	–	3.0	24	–	0.7

[a]Includes North Africa, not shown.

SOURCE: World Population Council Data Sheet, 1970.

Moreover, continued or even accelerated economic growth policies will not create jobs rapidly enough to absorb primary school leavers or those who complete secondary school. In the early years of the decade just past, educational projections were in some instances being premised on the ground that employment opportunities in the modern sector of the economy might be expected to grow at twice the rate of growth of Gross National Product. Recent experience has demonstrated that relatively high rates of growth have usually led to only small increases in wage employment while high industrial growth rates in some African countries have even seen declines in wage employment in the industrial sector.

Educators thus find themselves (1) being asked to cater for ever larger numbers of children and youth in schools at all levels but (2) recognizing that even good education is not in itself sufficient to ensure large numbers of its recipients the employment opportunities they so eagerly desire. Neither of these problems is amenable to short-term educational solutions but both of them create increasing strains within the educational system.

Political Factors Affecting Educational Development.

Formal education creates some of the most critical political dilemmas which presently face African governments and which will continue to face them during the decade ahead. The success of governments in resolving these dilemmas will bear significantly on their performance in controlling conflict and accelerating economic development. The principal dilemma is posed by the fact that intense popular demand for education has resulted in commitments to educational expansion which produce increasingly large numbers of primary and secondary school leavers in whose education a heavy investment has been made but whom the economies are unable to absorb in positions which are commensurate with their numbers and aspirations. The destabilizing effect of this disjunction is multiplied because (1) those with education are aware of the "promise" of modernization (and the "promises" of governments) and become bitterly disillusioned with political leaders when the "promises" are not fulfilled, and (2) because in an employment market which is not expanding rapidly the newly educated find their paths to employment barred by those with more limited education who now constitute the establishment.[12] Disaffection or alienation already spreads all the way from unemployed primary school leavers to student bodies in universities. The growing systems of education, moreover, demand increasing proportions of both government budgets and private resources, thereby further limiting the capacity for development and the generation of that employment which the educated demand.

Bringing formal education into a more realistic alignment with changes which will be required in societies and economies if human resources are to be used in ways which provide satisfying lives or more modern nations will require political decisions which it will be exceedingly difficult for political leaders to make in most African states. Failure to recognize problems now poses only a small limitation on decisions. The awareness of multiple barriers to modernization has increased during the past decade, and leaders more often view the process of economic and political development as a very long run process. Awareness that unrestricted educational expansion may slow this process is more common but in some countries leaders still talk (although with less conviction) about the possibilities of universal, free primary or even secondary education and justify commitments to such goals by the model which rich nations provide. Political realism thus continues to vary considerably from nation to nation while the limits of short range achievement are more clearly recognized by the central government than by those in local constituencies.[13] Few leaders will risk their constituent support by advocating unpopular constraints on educational expansion. Where constraints have been imposed on the aided system, this has been done only by simultaneously opening the "safety valve" of unaided education—permitting the rapid growth of private proprietary schools, unaided church affiliated schools, or self help schools which almost invariably provide education of lower quality than that provided in the aided system.[14]

The dilemma created by popular demand for education is complicated by uneven distribution of education by area or tribe. In Kenya, for example, it was calculated in 1965 that 91 per cent of the primary school age children in Central Province were in primary school but only 1 per cent of that age group were in attendance in the North Eastern Province.[15] Uneven patterns of distribution both limit the potential effectiveness of schools as agents of political socialization and integration and also frequently introduce or heighten rivalries between ethnic groups within nations. The benefits flowing from the modern sector to both individuals and to groups tend to be distributed largely by access to education, and inequitable distributions of schools are politically explosive. Increasing enrollments in areas which are lightly served, however, may at the same time serve to bring groups which were in accommodation to each other in the traditional economy into active competition for the limited number of desirable positions in the modern economy. Patterns of co-existence which applied to differing tribal groups in a traditional society thus no longer work automatically in a modernizing society.[16] In this situation, education can augment tension and accentuate conflict.

But even while proving immediately destabilizing, schools appear to offer important ingredients in the long term process of increasing political participation and stimulating political integration. African schools provide children of all tribes in each nation with a common language, common stocks of cognitive knowledge, and a body of roughly comparable experiences. For most who go through them, the school is probably the major resocializing agency in their lives, providing them with their first experience with universalistic norms and the values and expectations implicit in modern institutions.[17] Unfortunately, most African schools presently provide little civic education, both because it is difficult for the new states to create the social myth of a tradition of a harmony or unity and because national goals and ideologies are in most instances still vague or unsettled. Moreover, schools in the western tradition are essentially competitive institutions, and this characteristic limits the usefulness of even boarding institutions in developing an enduring spirit of community and cooperation. Furthermore, as teachers have lost their former prestige (by teaching large numbers of youngsters all that they themselves had learned in school), they have become disenchanted or alienated and have ceased to serve as effective middle men between the government and the public. More frequently they have spread their disillusionment to those around them, especially the oncoming generation. Because teachers generally possess sufficient education to understand the promises held forth by modernity and governments and because they generally accept the possibility of change through human effort, they often place responsibility for unrealized goals on political leaders rather than passively accepting their lot as preordained and unalterable.

It appears unlikely that most governments in Africa can halt the further expansion of formal education, although in some instances they may be able to slow the process or to channel increasing portions of this expansion into the unaided schools. The latter course will exact its own penalty by placing a growing number of even less adequately educated school leavers on the market than is currently the case. Where governments already possess considerable capacity for containing or ameliorating tensions, they may be able to create for themselves sufficient breathing time to redirect some of the demand for education into less expensive types of non-school or shortened education more closely tied to productive employment. A large scale shift of resources is likely to occur only as the public comes to view the benefits to be gained from formal schooling as being so limited that enrollments level off by virtue of declining popular demand.[18] Such a public recognition may come before the end of the decade ahead, and this may permit redistribution of funds to uses which will help generate sufficient employment to reduce the present disintegrative effects of formal education. In the interim, attention to civic education and course content, designed to increase awareness of national development requirements and development time span appreciation, may be the most positive new contribution to stability which the formal schools can offer.[19] If in addition to this the alienation of teachers can be reduced, the attitudes acquired in school may be more conducive to solid development. Since African nations cannot afford to raise teacher morale by further remunerative increases, the most appropriate positive approach open to them is to encourage direct professional involvement of teachers in planning and improving school programs, especially in those identified as "nation-building."[20]

Primary Education

Discussions of education in Africa which fail to come to terms with the problems which confront primary schools are frivolous. It is the primary schools which consume by far the largest proportions of both education budgets and private or local contributions to education; it is the primary schools which serve over ninety-five per cent of the school population in Africa; it is the primary schools which will provide the only formal education which most of the youngsters in Africa will possess; and it is the primary schools which provide the largest single market for wage employment of educated personnel in Africa. These institutions are too frequently viewed as little more than sorting machines whereby potential candidates for further education are sorted out and prepared (simultaneously and with dubious efficiency) for the higher levels of education. As primary schools clearly do not provide a suitable terminal education for the present job market in Africa, the tendency to view them solely as preparatory for secondary education is perpetuated and exaggerated. Since it is far from clear how rapidly or how effectively non-formal education can be used to bridge the gap between what the schools teach and what the populace and economy require, a reordering of priorities within formal education is also needed. In proceeding with this reordering the first priority is to ensure that attention proportionate with its enormous demand on resources be devoted to considerations of primary education. Unfortunately, the past decade has seen more attention devoted to the problems of secondary and higher education, problems which are by comparison relatively easy problems to handle.

Limited concern with primary schools has in part resulted from too narrow an appreciation of the roles which primary schools perform in social change. Even while primary schools are being given an undue share of the blame for the extent of rural to urban migration, their more important role in keeping vertical mobility open and retarding the development of economically debilitating class structures tends to be overlooked. This latter role is being played with decreasing effectiveness because of taxation and fee schemes which are regressive in nature and bear heaviest

upon those least able to afford them and because the opportunity to attend school remains inequitably distributed by geographic area. To talk of human resource planning without keeping the doors open for the potentials of individual humans to be developed and utilized would be nonsense.

Furthermore, the important role which even sadly inadequate primary schools perform in developing a modern orientation has proved difficult to quantify and is consequently frequently overlooked. Inkeles has recently reported his cross-cultural findings which show that the strongest correlate of a syndrome of attitudes associated with modernity—a syndrome including such factors as openness to new experience (including receptivity to population control), increasing independence from traditional figures, belief in the efficacy of science and medicine, and interest in planning and looking ahead—is attendance in the formal school.[21] His data on developing areas, which included data from Nigeria, revealed that each year of formal schooling proved the equivalent of three years of urban factory experience in producing attitudes associated with development. It may prove far easier to malign the common school than to duplicate its achievements. Waisanan and Kumata comment:

> Recent history makes it clear beyond doubt that it is less difficult to diffuse hopes than to teach the cognitive and behavioral skills requisite to the fulfillment of hopes. For this latter purpose, formal education provides an efficient route. And it may well be that the significant consequences of education relate less to specific course and program content and perhaps more to education as a social experience, to preliminary involvement, in modern social systems.[22]

Finally, primary schools have served families and governments even when their size and the content of their programs has been only obliquely related to the job market. Primary schools have been among the easiest of modern institutions to spread to remote areas and in the early years of independence they have served as a valuable expedient in demonstrating to remote populaces that some principle of equity is being applied in national affairs and in helping local governments gain experience in the running of modern institutions. To individual families in rural areas they have also been functional in serving as a safety valve when the size of family holdings or the knowledge of better agricultural techniques seemed to preclude the use of all the children on available land. In this respect it may have proven less important that all youngsters find wage employment than that some did. While the decade of the 1970s should see governments turning to other ways of serving rural populations and should see more families recognize how limited the utility of the school is as a means of accommodating a burgeoning population, it would be unwise to expect an abrupt end to the school's contribution to these social functions.

The need to focus thinking on the primary schools is derived therefore from the fact that they can be made to serve these functions better and that the contingent conditions mentioned earlier demand this. Three factors converge to provide *hope.* First, there are some signs that the demand for primary education which reached such explosive proportions at the point of independence is slowly abating. (See Table 4 following.) Second, and perhaps more important, the very development of an educational system which has over-produced persons for anticipated job markets has made available a reservoir of reasonably well educated persons who can be, and are being, trained for primary school teaching. Third, there is a growing recognition on the part of governments that rural regeneration is the key to economic development, and that schools and rural environments will be altered in mutually supporting directions to accomplish this. Nonetheless, the problems and limitations which promise to beset primary education during the decade ahead are ominous. Some of these problems have been dimly recognized during the 1960's but the staggering nature of others is only now becoming apparent as the enormously high cost of mass education and the disjunctions between schooling and the job market in the wage economy are becoming more widely recognized.

The first of these problems is that most countries are going to continue to face the likelihood of increasing primary school enrollments, even if the rate of growth declines because of the braking effect of the high cost of schooling and the vanishing job prospects for holders of the primary school leaving certificate or the *certificat des études primaires.* Even if the staggering rates of attrition are not significantly reduced in primary schools, projections of pupils already in school, rates of population growth, and the steady increase in numbers of pupils being enrolled in the first classes in school make this almost a certainty. The enormous cost of maintaining even a constant percentage of primary school children in school is well illustrated by Coombs for Uganda, and presented in Table 5 following. The picture in other countries would not be notably different. Although temporary plateaus of a few years' duration may be reached in the rising curves of primary school enrollments in some of the more educationally developed countries such as Ghana, these will be matched by high or accelerating rates of growth in areas such as Zambia and the northern states of Nigeria.

TABLE 4

Recent Primary School Enrollments In Selected African Countries (Primary I Classes)

	(1964) 1963/64	(1965) 1964/65	(1966) 1965/66	(1967) 1966/67	(1968) 1967/68	(1969) 1968/69
Ghana	253,693	274,500	272,177	220,559	214,115	200,263
Gambia	N/A	2,388	2,797	2,972	2,950	N/A
Malawi	88,617	83,661	59,188	65,871	81,037	N/A
Botswana	17,633	17,449	20,614	16,992	17,825	N/A
Lesotho	45,652	52,178	46,598	44,224	39,041	N/A
Swaziland	11,108	12,110	13,451	14,094	14,863	N/A
Uganda	106,313	115,835	122,326	118,935	113,091	N/A
Ethiopia	134,993	133,248	136,325	139,190	149,296	N/A
Sierra Leone	34,297	32,581	36,308	34,212	34,838	33,354
Zambia	75,289	84,862	103,707	115,903	122,863	127,163

Total Primary School Enrollments In Selected African Countries[a]

	(1964) 1963/64	(1965) 1964/65	(1966) 1965/66	(1967) 1966/67	(1968) 1967/68	(1969) 1968/69
Ghana	871,385	1,065,251	1,137,495	1,126,843	1,072,523	1,065,251
Gambia	N/A	11,504	12,624	14,218	15,386	N/A
Malawi	349,841	337,911	286,056	297,456	335,176	N/A
Botswana	62,839	66,061	70,944	71,577	78,963	N/A
Lesotho	165,056	168,180	167,169	167,803	168,491	N/A
Swaziland	46,038	49,517	55,005	59,287	62,082	N/A
Uganda	525,917	578,456	633,546	641,639	632,162	N/A
Ethiopia	317,240	347,770	378,750	409,710	452,451	N/A
Sierra Leone	117,875	123,250	126,438	128,566	136,824	139,412
Zambia	378,639	410,147	473,432	539,353	608,893	661,281

N/A = not available.

[a]Total enrollments tend to be deceptive, as the length of the primary course has been shortened in a number of countries during the past decade.

SOURCE: Compiled from individual country studies in the Overseas Liaison Committee series of reports entitled, *Report on the Supply of Secondary Level Teachers in English-Speaking Africa,* directed by Professor John W. Hanson and published by the Institute for International Studies in Education, Michigan State University, East Lansing, Michigan.

TABLE 5

Projected Costs of Primary Schooling
Uganda Primary Schools: Enrollments and Costs Needed To
(a) Maintain A Constant Enrollment Ratio;
(b) Maintain A Constant Nonschooling Gap

				MAINTAIN ENROLLMENT RATIO 43%			MAINTAIN NONSCHOOLING GAP OF 763,000		
	Population 6 to 12 (000's)	GDP (monetary) (£ m.)	Unit Cost £ (Sal. + £ 1.5)	Enrollment (000's)	Recurring costs (£ m.)	Percent of GDP	Enrollment (000's)	Recurring costs (£ m.)	Percent of GDP
1966	1340	197.7	8.5	577	4.90	2.48	577	4.90	2.48
1967	1381	211.9	8.8	594	5.23	2.47	618	5.44	2.57
1968	1423	227.2	9.1	612	5.57	2.45	660	6.01	2.65
1969	1465	243.6	9.4	630	5.92	2.43	702	6.60	2.71
1970	1509	261.1	9.8	649	6.36	2.44	746	7.31	2.80
1971	1554	279.7	10.1	668	6.75	2.41	791	7.99	2.86
1972	1600	301.2	10.5	688	7.22	2.40	837	8.79	2.92
1973	1648	325.6	11.0	709	7.80	2.40	885	9.73	2.99
1974	1698	351.4	11.5	730	8.39	2.39	935	10.75	3.06
1975	1749	379.1	12.0	752	9.02	2.38	986	11.83	3.12
1976	1801	409.1	12.6	774	9.75	2.38	1038	13.08	3.20
1977	1855	441.4	13.2	798	10.53	2,39	1092	14.41	3.26
1978	1191	476.3	13.8	822	11.34	2.38	1148	15.84	3.33
1979	1968	513.9	14.4	846	12.18	2.37	1205	17.35	3.36
1980	2027	554.0	15.1	872	13.17	2.38	1264	19.09	3.44
1981	2088	600.0	15.8	898	14.19	2.36	1325	20.93	3.49

Assumptions:

1. Growth of population aged 6 to 12 assumed to be 3 per cent per annum, not 1.75 per cent as in the published statistics, because the second five-year plan assumes an increase of total population of 2.8 per cent.
2. Primary teachers' salaries increase in real terms at the same rate as monetary GDP per capita; nonteacher costs remain constant; therefore, the total unit cost rises steadily.

Additional Note:

If one were to assume that the growth rate of GDP were to be 3.5 per cent (a rate in excess of the figure achieved in recent years), GDP by 1975 would be £278.9 million (Shs. 5578 million) rather than the £379.1 million (Shs. 7582 million) suggested in the above table. If one were to maintain the enrollment ratio at 43 per cent in this case, and were to assume the same value for recurrent costs as shown in Table II, the percentage of GDP used for primary education in 1975 would increase from 2.38 per cent to 3.24 per cent. It should also be noted that preliminary results on the new census indicate a rate of population increase in excess of the 2.8 per cent assumed in the Table.

SOURCE: Coombs, Philip, *The World Educational Crisis*, New York, Oxford University Press, 1967, pp. 204–205.

Second, the size and growth of primary school systems now present the governments of Africa with political dilemmas of the first order. As indicated above, African governments, failing to find other means of providing the benefits to rural areas which self-government was presumed to ensure, have permitted and often encouraged the development of primary schools. As popular demand for such schools mounted, expansion of the system became increasingly a political necessity. Primary schools also promised the continuing political benefits of increased political education and participation possible because of increased literacy. However, it has now become clear that virtually without exception the countries of Africa are finding it impossible to provide paid employment for school leavers. The potential for disruption which unemployed school leavers possess has been muted somewhat in Africa by the capacity of the extended family to provide for primary school leavers who migrate to urban areas, but even this capacity is now over subscribed in both West and East Africa. The serious proportions which "the problem of the unemployed school leaver" has reached is now recognized throughout the continent. In general this is a problem generated by the school leaver's aspirations to find employment in the modern sector of the economy, but since jobs in this sector are growing far less rapidly than the growth of the population, this is a problem completely beyond the capabilities of the primary school to solve by itself. Clearly, "solutions" which look to absorbing ever-larger proportions of the primary school leavers into the intermediate levels of formal education (for example, the experiment with Secondary Modern Schools in Western Nigeria) are no solution at all. Every indication is that the large scale market for products of such institutions has likewise closed and such "solutions" merely delay a day of reckoning and delay it at a very high price. Similarly, attempts to provide for unemployed youth through National Service programs or other youth mobilization schemes are proving prohibitively expensive while serving relatively small numbers of youth.

Almost all countries in Africa thus face the disruptive potential of large pools of disaffected school leavers, and it will be an almost insurmountable task for the African governments with their fragile political structures and limited political capacity to channel or defuse rising dissatisfaction. Huntington has argued that "modernity means stability and modernization instability," and the evidence he cites, presented in Table 6 below, suggests a discouraging, *immediate* future for Africa, where no country has yet reached what appears to be the "literacy" breaking point (90 per cent literacy) between the likelihood of stability or instability. Moreover, if violent protest is considered a criterion of instability in these data, one might presume that the period ahead (in which literacy rates will at best increase only gradually) will be marked by frequent violence.

TABLE 6

Literacy and Stability

Level of Literacy	Number of Countries	Number of Unstable Countries	Percent Unstable
Below 10%	6	3	50.0
10% – 25%	12	10	83.3
25% – 60%	23	22	95.6
60% – 90%	15	12	80.0
Over 90%	23	5	21.7

SOURCE: Ivo K. and Rosalind L. Feierabend and Betty A. Nesvold, "Correlates of Political Stability" (paper presented at Annual Meeting, American Political Science Association, Sept. 1963), pp. 19–21, as quoted in Samuel Huntington, *Political Order in Changing Societies,* New Haven, Yale University Press, 1968, p. 43.

Furthermore, it appears that primary schools are seldom proving the agents of political socialization which they might be. Course content might be changed with some ease, but two serious impediments stand in the way of using schools for purposes of political socialization. As primary school teachers are increasingly disenchanted with their lot, the teacher is apt to be a poor agent of political socialization. It is not surprising that the Commission on Salaries and Remuneration in Ghana recommended, and that the Government accepted, increases in the salaries for primary teachers even though these teachers were in fact not finding other jobs and hence not leaving the profession. But even if the teacher deliberately sets out to be an agent of political socialization, it is not clear how he would perform this task. With governments lacking any clear conception of what they consider the "good citizen" of their country to be, it has remained impossible to transform school programs into effective programs of political socialization or civic education.[23] Nyerere's conception of *Education for Self Reliance* still stands almost alone in the African landscape as a conscious attempt to plan a program which would prepare a citizen in an African country with an ideology and life style peculiar to that country.

Third, present primary school programs bear little direct relation to the agrarian economy and rural life in which it was suggested earlier that they should logically be rooted. The historical reasons for this are multiple: in part present programs arose from the early need for local persons suitable for government and commerce; in part they were mere transplantations of school programs (often including instructional materials) from colonial countries; in part they arose from the intention of parents and pupils to use the school as a means to gain a type of employment which would provide cash supplements to family incomes or to acquire status which was higher than that of the subsistence farmer. Once oriented away from the rural area, it has proven nearly impossible to re-orient schools toward the agrarian economy, for reasons which are described below. During the 1960's, moreover, when most educational attention was focused upon the secondary schools and universities, the general concern with respect to primary schools was for improving the preparatory quality of their programs so that more and better candidates would be available for secondary schools.

Fourth, the primary schools by and large provide an ineffective type of cognitive learning (largely memoriter in nature and having little genuine meaning for most of its recipients) and provide this education highly inefficiently. In many countries the "shadow cost" of one primary school leaver with a certificate (the total number of pupil years with government support divided by the number of successful primary school graduates produced) is the actual cost of fifteen to thirty pupil years in school. Limited or non-existent instructional materials, curricula or syllabi which are loosely if at all connected to the out-of-school life of pupils in Africa, excessively large classes, poorly educated and untrained teachers, and nutritional problems all frequently take their respective tolls from school learning. Thus although the school has proved a threshold to modern ways of feeling about the world, the impact it could make in terms of developing cognitive meaning or intellectual skills beyond the most mechanical level is generally lacking.

Finally, and most important of all, the process of *changing* primary schools in the developing countries of Africa is necessarily a very slow one. This is true at the same time that the distance to be covered by change is great. Mass primary education in Europe and America was in large measure a response to the problem of finding what to do with youngsters whom social legislation had happily removed from mine, mill, and workshop. Economic development had largely created jobs for those who came out of the schools; it did not expect school products to suddenly create jobs for themselves. Transforming schools with this origin into "tools of development" will require a reasonable level of education and professional competence on the part of schoolmen. Successful change will require of them not perfunctory performance but an understanding of the changes being made. Only now are the teachers who might have an understanding of the changes required beginning to enter African primary schools in sizable numbers. But something more is required. The process of educational change is still little understood even in developed countries, and no adequate theory exists either with respect to diffusion of educational innovations or consolidating innovations which have been introduced. We are constantly thrown back on the folk wisdom of the profession, and it too frequently proves inadequate to the challenge.

This array of problems at first seems very formidable. Although certain of these problems promise to become even more critical during the forthcoming decade unless decisive action is taken to deal with them, i.e., upward spiralling recurrent costs due to annual salary increments, others may become more manageable as conditions evolve. The main hope for change comes through the rapid increase in the number of teachers with some post-primary education and reasonable professional training, the establishment of institutions which are directly concerned with improving primary education, the new attention to the promotion of rural development (educational programs which are not parts of larger programs of rural change are apt to prove entirely ineffective), and the increasing awareness that school certificates have diminishing value in the urban marketplace. Thus even though we have little certain knowledge about the process of educational innovation, African countries will need to move ahead, learning

as they go, using what are at present only crude hypotheses and checking these hypotheses by controlled observation and participant research. The mounting economic and political problems to which schools are at present unwilling contributors will allow no other course.

The size of the primary school systems in the countries in Africa, the gradual nature of educational change, and the difficulties in directly altering primary schools suggest that the highest priority items for increasing the appropriateness and efficiency of primary education fall under three rubrics: (a) improving the pre-service and in-service education of teachers who are not only competent in the art of teaching but have the willingness and *the ability* to institute educational changes, (b) preparing and disseminating instructional materials and teachers guides which these teachers might use in instituting changes, and (c) increasing the store of knowledge about primary schools, primary school clientele, and *the process of educational change.* Since the development of curricula and instructional materials are closely associated with teacher education and since research development can enliven teacher preparation, these priorities are treated further in the section on teacher education which follows.

Three points may, however, profitably be made here. *First, there are very good reasons that highest priority should be given to instruction in the earliest grades of the primary school.* (This runs directly counter to practices which have prevailed in the past whereby the least qualified teachers have regularly been assigned to these classes.) It is at this level that the foundations for all further learning are laid, and only if sound foundations are laid can the process of building the edifice upward proceed smoothly. Moreover, with poorly qualified teachers assigned to these grades, it is not surprising that it is here that alarmingly high rates of attrition occur.[24] Good teaching at this level would thus not only promise to increase the internal efficiency of the school system but, perhaps even more important, give the greatest hope that the early school leaver will carry away from the school something in the form of values, knowledge, and rudimentary skills which will enrich his life and that of his community. Furthermore, it is in teaching at this level that persons possessing top quality preparation as primary school teachers possess sufficient general education to give them the psychological security necessary to create a classroom environment characterized by inquiry, thought and meaning.[25]

Such an emphasis on instruction in the early primary grades would require not only a shift in the assignment of teachers within a school (an inexpensive process) but increased attention to early childhood education in both teachers colleges and in-service programs. Were participation in in-service programs made a condition for entitlement to regular increments on the salary scale as proposed elsewhere in this paper, the cost might prove minimal for the large returns which should be forthcoming.

Second, *those interested in education should give special support to pilot programs designed to relate education to community participation, work requirements and life outside the school in general or which are designed to introduce new levels of meaning, experience and inquiry into classroom practice.* This may involve an inequitable distribution of the most promising teachers available, but until it is known what a school staffed with good teachers back to back can in fact produce, discussions of educational progress at the primary level are profitless. We may, however, anticipate that schools in which a deliberate effort is made to relate their programs to the agrarian economy will have the greatest chance of success in locales where other aspects of rural reformation are underway. It would thus be necessary to locate some pilot schools in communities characterized by sound extension services, farm cooperatives, reasonable economic returns on agricultural produce, and the minimum amenities associated with modernity. Experiences in as diverse educational settings as the United Arab Republic (where schools have been made a central part of rural "social units") and Upper Volta (where the three year *education rurale* program has been limited to communities including cooperatives and related evidences of rural transformation) suggest that education appropriate to a rural environment can occur in settings which possess the characteristics associated with transformation.[26]

Reasonable effort has at last been given (by Beebe)[27] to attempting to delineate the various stages of educational growth, much as economists have tried to delineate the stages of economic growth. Crude and uncertain as they are, these attempts serve as a valuable corrective for the notion that anything is possible at any time and in any place. But the element of place remains important. What may be educationally possible in a country such as Tanzania with a developed ideology and a political party structure designed to carry and interpret this ideology to each rural community may be impossible in a country lacking one or both of these ingredients. This strongly suggests that the determinants of what can be tried with reasonable hope of success lie as much outside the school as within the school. In one nation this may mean concentrating upon the introduction of rural content and local problems into the "course of study" of the school; in another it may permit the type of interpenetration of school and community ventured in *Education for Self Reliance.* Both the surrounding environment and the intellectual and

professional characteristics of teachers condition the effectiveness of education; neither determines it in the ultimate sense. The imperative for those whose authority is exercised through the educational system is to see that the factors under their control are not the anchors which hold education forever in place.

Third, *both the large numbers of teachers who have been traditionally trained (or who are totally untrained) and the need for constant reinforcement of the innovative spirit which it is hoped new teachers will possess call for increased attention to and support of methods of in-service education which involve the active participation of teachers.* Generally this will require departing from the typical short courses and engaging in programs which involve the interplay of instruction, application, self-assessment, and school visitation. In many of the countries of Africa where transportation imposes particular handicaps upon in-service education programs of teachers, schemes which rely heavily upon "correspondence work" and which call upon the teacher to "try out" and even evaluate new methods or materials locally may have far greater effect than in-service classes in the teachers college situation.

In the last analysis, however, the success of in-service programs depends upon the identity of the trainee with the institution which is providing the instruction. The logical division of responsibilities between teachers colleges, institutes of education and ministries remains to be worked out in each country in terms of its particular requirements. As a general principle, however, it appears logical that there should be a devolution of authority for the in-service education of teachers to new, enlarged teachers colleges as these come into being. This requires consideration of the kind of colleges which can best perform this function.

Teacher Education

If primary schools are the principal institutions in the formal school system for making men modern, it does not follow that much leverage can be applied to these schools directly. It is the organization and quality of learning within them which is probably the key to their modernizing influence, and in the nations of Africa the quality of learning is undoubtedly even more a product of the capacity of the teaching force than it is in wealthier countries where enrichment is possible through modern teaching aids, workshops and libraries, and buildings which encourage teaching methods flexibility. For the decade ahead, very few primary schools will provide the kind of learning situation which the good Western school provides. The teaching-learning process will consist of increasingly fruitful teacher manipulation of a more restricted learning environment—comprised of the teacher's own knowledge; better and somewhat more abundant textbooks; time which could be organized to facilitate meaningful cognitive learning, a spirit of inquiry, and modern ways of looking at things; and (at best) a surrounding natural and social environment from which learning will increasingly be drawn. Teaching technologies in the sense of *new ways of teaching* could become increasingly frequent if effective steps are taken to encourage and support their use, but it is extremely doubtful if ways will be found to finance the new hardware of teaching in more than a few schools. Education will, in short, remain a labor intensive industry in a continent which requires labor intensive industries, and the knowledge and managerial talents of the teacher and headmaster will remain the crucial skills of its laborers.

The centrality of the system of teacher education for maintaining or improving formal education in Africa has been widely recognized by visitors to African schools. Lip service is frequently paid by governments and development experts to the importance of the "multiplier effect" which can potentially be achieved through investment in teacher education. (More recently, attention has been given in a few African states to the possibility of increasing this multiplier effect by devoting attention to the preparation of teacher educators.)[28] Since only a small percentage of African children will receive more than primary level formal education and since the majority will continue to receive no more than the first few years of school, there is an ethical and practical imperative to go beyond lip service in the effort to provide sound, relevant, and increasingly stimulating education for these children. As implied above, probably the most significant channels for assistance to the education of the vast majority of school children in the developing African nations is through (a) the education of teachers (including headmasters) and (b) improved curricula designed for primary schools, including preparation and provision of the classroom instructional materials, teachers guides, and background materials for teachers which will give these curricula some chance of making a difference. Radical improvements are most likely when attention is given to both of these leverage points simultaneously.

The problems of institutions devoted to educating primary school teachers in Africa have been legion. Only a few of the most important of these problems need to be recapitulated here: African Ministries of Education have given *de facto* priority to grammar schools, in the British sense, rather than teacher training institutions; the status and reward systems encouraged the better students (academically) to move into the grammar school stream and have left the weaker students and those who could not afford grammar school for the teachers colleges; there has often been an unhealthy proliferation of teachers colleges—Ghana alone had 84 in 1968—of small size and poor quality; the low entry point (and dubious academic credentials) of candidates for teacher education has led to programs with courses topped

up with simple work in "methods"; few well-educated or well-qualified teachers have been induced to become tutors in teachers colleges; expatriates have frequently been inadequately trained and on too short terms of service. These weaknesses in pre-service teacher education have been exacerbated by a lack of institutions and programs designed to carry on effective in-service education of the untrained and poorly trained teachers.

The last five years have witnessed changes which have increased considerably the potential for gaining some leverage on the problems of teacher education. Most countries are committed in principle to establishing larger institutions for teacher education and to consolidating existing institutions. The principle of consolidation has already been translated into practice in some countries. The availability of an increasing number of candidates who already possess a partial or complete secondary education has provided teachers colleges with the opportunity to provide a more advanced, better focused, and briefer education. Furthermore, special programs have been launched for the preparation of teachers college tutors, especially through associateship courses offered by institutes of education or advanced teacher training colleges. Larger numbers of graduates who possess degrees with professional education components are being directed into teachers colleges than was formerly the case. Special institutions have been created to carry on the in-service education of teachers under Ministry auspices (as at Chalimbana in Zambia), under University auspices (as in a number of Institutes of Education) or under joint Ministry-University auspices (as in the Kenya Institute of Education). The Academy of Pedagogy in Ethiopia promises to be a refreshing institution, committed as it is to the preparation to degree level of tutors for teachers colleges in a strikingly new pattern that provides for simultaneous work toward ruralizing the school program. Nevertheless, old barriers to effective development continue to prevail in many countries: overproduction of teachers in high cost programs or the use of persons prepared for one level of teaching at higher levels to make good shortages of staff at presumably "more important" levels.

The high potential of teacher education for enhancing the quality and improving the efficiency of education as it currently exists and, more importantly, for providing one of the chief enabling conditions for effective innovation or radical transformation of present patterns of schooling are important reasons why the *support of soundly conceived programs of teacher education merits higher priority than does support for academic secondary schools per se.* The emphasis implied is upon teacher *education* (inclusive of a teacher *training* component) rather than upon narrow systems of teacher training which would leave the present nature of formal primary and secondary education unchanged and might render it even more impervious to future change.

The shift of attention to teachers colleges which is already beginning to occur in some ministrics is healthy, but there is a danger of increased inefficiency. As new institutions are created, such as the Institutes of Education, the successful ones may become overburdened with tasks of apparent merit and some may duplicate one another's efforts. African universities and Ministries of Education have encountered the problem of duplication frequently in the past and it is only as functions and responsibilities are carefully defined and mutually accepted that this danger can be avoided. The possibility that some institutions will be overburdened by *multiple* tasks is equally serious. As the professional preparation of teachers college tutors increases and as teachers colleges are consolidated into larger units, the college becomes eligible to perform many functions it was not previously capable of performing. Which functions appropriately belong in ministries, which in institutes (when these are not *merely* holding companies controlling or coordinating various professional units), which in university departments and which in teachers colleges is not easy to determine. Duplication is especially likely since many of the functions which need to be performed are interrelated: pre-service and in-service teacher education should be connected; curriculum reform and the production of instructional materials should be linked to experimental testing, classroom research and the education of the teachers who are going to use the materials; and research programs should enliven every enlarged teachers college before the decade is over. Obviously, the tasks of teacher education must be sorted out among the concerned agencies.

No single division of tasks may be appropriate for all countries. It would appear, however, that if Institutes of Education are to take on the kinds of research suggested elsewhere in this paper, they may need to be freed from some of their current responsibilities though their coordinating role is an important one that should be maintained. Therefore, in order to free the Institutes and to encourage the teachers colleges to develop into the district centers for education which they should become, the tasks of *in-service* as well as *pre-service* teacher education should be passed largely into the hands of the affiliated colleges. (In keeping with a coordinating role, Institutes might continue to bear responsibility for in-service work with specialists in the colleges and with various categories of administrators.) If these colleges are to attract and hold the quality of personnel they will need and develop a stimulating educational environment, many types of research on teaching methods might appropriately be housed in them. Similarly, expanded colleges could assume many functions formerly performed directly by the inspectorate of the Ministry, particularly were the concept of supervision and professional leadership promoted to replace the more

limited present concept of inspection. If teachers colleges and ministries were given more than nominal membership in the governing boards of Institutes, the division of responsibilities between all the institutions might be facilitated.

Many problems of teacher education lie directly in their instructional programs. Programs of teacher preparation which will be more efficient in the use of instructional time and which will permit teachers to play a more professional role in helping adapt school programs to the economy and the political order are not easy to construct. The time and effort required for rethinking programs of teacher preparation is often overlooked. Yet fundamental rethinking will be required if greater efficiency and effectiveness are to be achieved in the decade ahead.[29] Priority should be given to facilitating the process of rethinking whether done on a national or regional basis, but the heavy demands made upon the budgets of universities and ministries suggest that it will be exceedingly difficult for local sources to support the effort required. Although the problem applies in institutions below university level as well as universities, the problem in the latter can be used illustratively.

The conventional pattern of preparing degree-level teachers in British Africa was to add a post-graduate program to the conventional bachelors degree in either the arts or the sciences. The past decade has seen the introduction of programs which offered concurrent courses in education and the subject matter disciplines which lead to degrees *in* education or degrees *with* education. This has been a step forward because it has provided for relating subject matter preparation to professional preparation and has encouraged earlier professional identification and possibly greater commitment to the profession. Programs which have been developed to date, however, have been largely conventional in nature. They rely in large part upon the addition of courses in the conventional research disciplines connected with education and are frequently too numerous and too demanding in terms of the program. Now is the time to reconsider and re-focus these programs.

Although it is impossible to prescribe in advance the exact nature of the teacher education courses which should merit support, the following have the best promise in broad outline: (a) general courses on the problems of national development and the contributions of various professions in solving them, (b) courses on the analysis of the particular place of education in development, (c) new professional courses, constructed by focusing on *the competencies* required *of teachers* rather than the research divisions established in graduate schools of education, (d) demonstration center observation of good teaching techniques and of the community role of education, (e) participation in practice teaching situations of sufficient length and merit to gain some competence in the craft of teaching and in community education centers, (f) attention to processes of educational change, particularly but not exclusively focusing upon modern methods of curriculum construction, and (g) participation in some project involving action research.

Not all changes in programs of teacher education can be this far-reaching at this point in time. More frequently limitations of staff and time will permit only particular aspects of the programs to be singled out for attention. There are three particularly meritorious points for experimentation and development among these. The first is the area of *curriculum construction for the teacher.* Even within the limits imposed by set syllabi and examinations, there is much room for effective curriculum construction by the individual teacher and even more for teachers operating in professional teams. In both pre-service and in-service education, training could be given to teachers in skills required for modifying programs, especially for the purpose of building values, relating school learnings to community life, and using school learnings for community improvement.

The second point which appears to call for more radical experimentation than it has received to date is the practical experience period in teacher education. Teaching includes many elements of a craft, and little is known about how the craft elements of teaching can best be developed—or when. Experimentation and controlled observation are needed. For example, the use of *master teachers,* who have been carefully selected on the basis of demonstrated competence and interest and who have been freed of other responsibilities, to supervise a limited number of apprentice teachers for a full year should be tried. If increased salaries, which their role as teacher educators would logically suggest, were balanced with limited stipends for three apprentice teachers handling three classes, a trial program could be introduced at little or no increase in cost.

The third point, and one of a somewhat different nature, is *pilot and demonstration schools.* It should not be expected that the types of programs developed in demonstration schools can be transferred intact to national systems overnight, but good schools, preferably part of wider community projects, will permit both serving teachers and teachers in preparation to recognize that various options in teaching and in educational programs are available. A major educational impediment at all levels is the lack of opportunity for the prospective and the practicing teacher to see imaginative teaching in situations materially comparable to those in which he is working or will work. Demonstration schools, especially schools whose facilities and programs are removed from both the constraints and

advantages of the university or teachers college campus, can serve as one important means of broadening the outlook of prospective and serving teachers. Demonstration schools should not be construed to mean educational technology factory training centers. The emphasis here has been clearly placed on the observation of imaginative teachers who make do with the minimal equipment that a randomly selected school could be expected to have. However, without further knowledge of how improved practices are most efficiently diffused, maximum profit from demonstration facilities cannot be expected. But while knowledge on the best means of diffusion of educational practices is being built up, teacher preparation programs should not be held back to past patterns.

The preparation of better teachers is a necessary but not a sufficient condition to ensure better education in primary schools, especially in view of the large classes with which most of these teachers will inevitably work. Almost equally important are suitable instructional materials, the items which present the "stuff" of teaching and learning. Despite the advances made in new teaching-learning equipment and despite the possibility that some greater use will be made of radio and television in some areas, it appears almost certain that the textbook, the workbook, and the teacher's guide will remain the backbone of instructional materials for the primary schools for some time in most of rural Africa. Hopefully, these can be supplemented by modest work-kits which will permit a more realistic introduction of experimental "science" in the primary curriculum, especially in simple mechanics and in relation to the agricultural base of the community. The present rural education impasse might be surmounted if teachers made knowledgeable of rural life and agriculture as well as their formal subjects were then employed to encourage their students to experiment with simple kits and seeds and to help in the organization of school activity related clubs.

The preparation of instructional materials which embody sound principles for building language competence, encouraging thought and application of knowledge and local relevance without provinciality will require new stratagems of cooperative endeavor. The task of devising such materials for African schools must clearly be in Africa, but the problem remains as to which materials should be produced on a continental or regional basis, which on a national basis, and which on a local or district basis. The development of *systems* of instructional materials in which regionally produced materials leave room for blocks to be supplied by locally relevant materials will probably require continued outside financial and specialized expert assistance in the decade ahead. This is true because the production of good teaching materials requires specialized competence and because testing in the field is required before production. Thus initial costs tend to be high. The development of any genuine cooperative effort in which tasks are divided appropriately between *regional* units (attached perhaps to the regional councils of education), *national* curriculum and materials centers under Ministries or Institutes, and local units attached to the consolidated teachers colleges is especially deserving of support.

In suggesting that expanded teachers colleges take principal responsibility for some functions which have formerly been housed directly in central ministries or exercised by Institutes of Education, we are concerned that a more effective relationship between these colleges and the districts and the schools they serve be established, that capable staff be attracted to the colleges, that the level of the intellectual stimulation they provide be raised, and that the decks of central institutions be cleared so they might engage in other urgent problems which are currently left untreated or are being treated only in terms of the folk wisdom of the profession. *It is particularly important that priority be given to national institutions, organizations and arrangements which commit time and resources to research concerning the relationship of education to development, broadly conceived.* For example, much dogma has been expounded about the inability of the schools to make a direct impact upon agricultural practice or rural development; and yet we know that in certain circumstances, schools have achieved success over some period of time. The important thing to know, however, is not that some schools have achieved greater success than others, but what accounts for the success and how can it be ensured in a wide range of situations.

The study of relationships between formal education and the process of modernization and development will in most countries require that interested professional educators acquire special research competence in related social science fields and methods, notably, survey design and analysis, probability and statistics, causal analysis, systems analysis, communications theory, political science, or economics. The present sorely taxed resources of almost all educational units promise to limit the pursuit of new knowledge at the time when it is most needed. Priority should be given to, and outside support will often be needed for, such institutions as Centers of Educational Research and Innovation (organized either as independent units or as units within Institutes of Education) or, conceivably, Centers or Programs for the Study of the Diffusion and Institutionalization of Educational Innovations. Similarly, new and expanded teachers colleges might look to outside sources for financial help as they attempt to build modest research components into their activities. Here the needed investment would undoubtedly be much smaller but the return in terms of altering the image and effectiveness of institutions which have hitherto held too low a place in professional esteem might well prove worth the small investment required.

Advancement of knowledge about the process of changing education will not, however, come solely through the isolated research of separate institutions. *Much can now be gained through the stimulation which comes from inter-organizational work on common problems. Expansion of this type of interchange needs to be accelerated. The maturity now exists in African institutions for them to participate as full partners and leaders in professional dialogues and investigations.* The Association for Teacher Education in Africa and the regional councils for education are already proving their worth in promoting interchanges of ideas and information, and they may well provide a cutting edge for innovation in the decade ahead. The contributions of both the Association and the Regional Councils should be enhanced as they achieve the organic relationship with one another which now appears likely. But support of more modest and specific arrangements is also justified. For example, linked and especially troika relationships, through which the new, enlarged teachers colleges in African countries might be able to pool information, exchange staff, or work on common problems with similar institutions in both another African country and in a non-African nation would now seem to offer considerable promise. Such relationships, if carried on over a period of time, should help build sounder and more highly professional teacher education institutions throughout the continent.

Secondary Schools

The decade just past has seen the very rapid expansion of secondary school enrollments throughout Africa, an expansion which has been fed by the social demand for education generated by its past economic benefits to its recipients and by recognition on the part of governments that serious shortages of high- and middle-level manpower existed, shortages which needed to be filled by persons with one or another type of post-secondary education. Secondary schools which were opened during the educational explosion which immediately preceded and followed independence are still growing, and there appears little likelihood that the social demand for secondary education will abate much in the first half of the decade ahead. Governments and Ministries are becoming increasingly aware, however, that the market for secondary school products in the modern sector of the economy is far more limited than they had imagined it would be, and the economies of some countries are already finding great difficulty in absorbing secondary school leavers who can find no place in institutions of higher education. Even where governments are recognizing this problem and are restraining the *general* growth of secondary school enrollments, current inequitable distribution of secondary schools by geographic area or ethnic group leads to a relative willingness to open new schools or to encourage further growth of existing schools. Thus both continued social demand for education and government concern for greater equity of educational distribution promise to lead to continued growth of secondary school enrollments.

Even as secondary school enrollments have expanded rapidly, attempts have been made to right imbalances which were quickly perceived within programs. For historical and financial reasons, secondary schools had long found it easiest to present programs which were heavily oriented toward the "arts" subjects, and shortages of teachers and facilities have meant that science offerings have been infrequent and often of poor quality. Only as larger numbers of local science teachers, often trained in diploma or non-degree programs, become available is this imbalance likely to be redressed. There has also been a widespread belief that secondary school programs were too "narrow" or overly "academic," and there has been growing concern that they provided neither the pre-vocational nor the vocational offerings which would equip youngsters for further training or for direct employment. As the facilities and teachers for such programs were in even shorter supply than was the case with science teachers and facilities, attempts to diversify or "vocationalize" programs of secondary schools lagged behind attempts to right imbalances between science and arts subjects. Increasing recognition, however, that vocational programs (1) do not necessarily ensure the availability of jobs in the modern sector of the economy and that (2) they are extremely expensive to introduce and maintain has led to reconsideration of "vocationalizing" school curricula. The consequence is that there is a belated but growing recognition that "diversification" needs re-examination and that the linkages between educational institutions and with the job market require far greater understanding. (Surprisingly, there has been no attempt even in diversified secondary schools to add curricula designed to serve one of the largest job markets for educated persons—primary school teaching. Such curricula would appear particularly appropriate for girls, many of whom will follow husbands to jobs away from commercial centers and almost all of whom will be raising families eventually. There is no obvious reason why imaginative scheduling could not allow for such an addition at relatively low cost.)

Two other highly visible problems, closely related to each other, have stood out in the present period of educational expansion. The first of these is that the content of courses, in both the arts and sciences, has frequently been unrelated to Africa in general or to the particular country in which education was being offered. The process of Africanization of the examination councils and ongoing locally centered revision of school syllabi has, in part, alleviated this problem in many parts of the continent. The second highly visible problem, and one which for a time seemed more intractable, was that while existing schools lacked sufficient African teachers additional expansion was

undertaken. This meant that progressively smaller proportions of the well-qualified staff were nationals. The recent creation of large scale degree programs and the opening of advanced teacher training colleges to produce non-degree teachers have moved localization of staff rapidly forward. The point seems to have been reached where the percentage of expatriate personnel will decline. While imbalances between fields in which teachers are trained will continue for most of the coming decade, problems in staffing secondary schools with African citizens will be less in absolute shortages of well-educated people than in attracting well qualified Africans into teaching and holding them in the profession.

In short, the decade of the 1960s was marked chiefly by the rapid expansion of secondary schools and by the concomitant problems of localizing staff and providing *prima facie* relevance in the courses offered in the schools. External aid, through the provision of large numbers of expatriate teachers, through support of new institutions to produce local teachers, and through capital assistance for building programs, contributed greatly to the growth of secondary school enrollments. With few if any exceptions, future external aid for secondary school education should be designed to improve *its nature and quality* by encouraging innovations which promise to relate the school to community and country and by tapping the implicit potential of the diversified programs which are now being introduced. We are encouraging a phased shift away from expanding numbers of expatriate teachers and from extensive building programs toward greater attention (a) to promoting an innovative spirit within secondary education and (b) to the preparation of professional leaders who can give direction to this spirit of innovation. Most considerations which apply to teacher education, and which were treated in the previous subsection of this paper, apply with equal force to secondary education, but some specific foci will be reiterated here for sharper relief.

Periods of educational change make heavy demands upon leadership. *Programs for the education of secondary school administrators and other educational leaders are overdue in most African countries.* In the past, little or no training has been given to school administrators. Still, schools did fairly well because they were operating within a relatively simple mold, a mold in which leadership roles were administrative in the narrow sense of the word. If secondary schools are to realize the potential involved in more diversified curricula, however, there appear to be special reasons to prepare school administrators who (a) have explored ways of relating the school more effectively to the surrounding community, (b) understand processes of encouraging and guiding teacher participation in program development, and (c) understand ways of individualizing programming, especially through guidance and more flexible scheduling.

Although the role of leadership is crucial in both initiating and stabilizing educational change, this is not in itself enough. The time now seems appropriate when *a concerted effort should be made to engage classroom teachers in developing school programs and curricula.* As Africanization of school staffs is accomplished through increases in the number of *professionally trained* African teachers, the promise for effective participation of the educational profession as a whole in revitalizing secondary education is increased. There are several reasons why such involvement is important: (1) Programs which involve the potential users of curriculum innovations are likely to be both better understood and more fully utilized; (2) it is unlikely that the morale of secondary school teachers, and the efficiency which comes with higher morale, can be significantly improved without increasing the opportunities for staff participation in significant decisions; (3) neither problems of teacher turnover nor the problem of teacher disaffection (with its politically destabilizing potential) are apt to be solved without greater involvement of teachers in the process of developing programs and materials.

Not all countries will be ready to move away from inherited educational programs at the same speed; neither will all schools in any given country be ready to move away from set patterns at the same time. It has generally been the practice in Africa, however, that individual programs must fit into national programs, and that no variation on an individual school basis can be allowed. There is no reason to believe, however, that freedom will lead to anarchy while there is much reason to believe that *experimental programs in secondary schools must be increased, especially where such programs are locally initiated.* Frequently the type of support which is most required is freedom from the constraints which are imposed by set syllabi and examinations. Experimental programs in which national universities agree in advance to accept other indices of competence, or in which examinations councils agree to build examinations designed to reflect experimental curricula and programs (as they have done for the new mathematics), appear to be particularly promising candidates for both local and external help.

In the last analysis, however, *it is the lack of direct relationship between the secondary schools and the rest of the environment which remains one of their most discouraging features.* This was an almost inevitable consequence of the process by which secondary schools (seen as preparatory institutions for the universities) were transplanted to Africa. The fact that they were generally boarding schools, which were isolated as completely as possible from the influences of the surrounding community, accentuated the lack of relationship of their programs to life outside the

school grounds. It is to this problem that African institutions should particularly address themselves in the decade ahead. This suggests, first of all, *the need for programs which explicitly attempt to trace out or develop the relationships between secondary education and society.* Three types of programs which would contribute to this end are worthy of mention. First, national initiatives may be undertaken to improve the program of social studies in secondary schools, especially through the introduction of courses focused on the problems of civics and development. Much latitude exists in social studies, where the cumulative nature of secondary level learning is not overly rigid and where interference with the "preparatory function" can be minimized. Second, research is required to ascertain more about the career destinations of secondary school students of all types and the use or disuse to which their secondary education is put. Third, career and vocational guidance, now sadly lacking in most secondary schools, will be badly needed if the pre-vocational programs which are now being developed are to have meaning.

If the schools are to relate more effectively to the environment which surrounds them, *means for mutual reinforcement of school and non-school institutions must be studied, planned and implemented.* Much of the contribution of secondary school education to non-school education is, of course, in the preparatory function which it serves for various forms of vocational or on-the-job training. There may, however, be many other ways in which the formal schools, and the investment which is made in them, can also support the education of persons not formally enrolled in their regular curricula. Only the most elementary and tentative steps along this line have thus far been taken: the general secondary school staff teaches members of builders brigades after hours at Swaneng Hill; radio and correspondence classes have been supplemented by after school classes in certain institutions in Malawi; evening school is open in regular secondary school buildings in some community schools in Africa.

The agenda for action is large. It is an agenda which rests upon the assumption that secondary school staffs in African secondary schools are not only rapidly becoming well qualified staffs but that they will wish to prove genuinely professional in the sense of wanting to participate in the formulation of policy and in achieving the tasks which independence has set for their nations, not solved for them.

The Hidden Priorities

Treating formal education by categories has had the unfortunate effect of hiding four of the major priorities which must be accepted if education is to be placed squarely in the service of Africa in the decade ahead. These are priorities to which those outside of Africa can make little contribution. They are, unfortunately, priorities which some in Africa may find difficult to accept, but failure to point to these priorities which the perspective of the decade now helps us recognize because some will reject them would serve no one; it is only as these priorities are faced, inside and outside of education, that educational change will become significant and realistic.

The first of these priorities is casting the common examination system in a far humbler role, a role more commensurate with its potentialities. School examinations at both the primary school and secondary school levels have unquestionably done much to standardize the education which was being provided in African nations; unfortunately, they have provided this function only at a terrible cost in terms of dictating program, stifling teacher initiative and pupil inquiry, demeaning many of the crucial attitudinal outcomes which should grow and flourish through sound school programs, and placing memoriter learning in the position of king at precisely that point in history when Africans are being called upon to exercise maximum ingenuity to solve both the problems of building nations and satisfying personal lives within them. Better qualified teachers currently coming forward are a necessary condition for more meaningful education, but with the examination system playing its current role, they are not a sufficient condition for providing such education.

The limitations of the examinations stem only in part from the role they have played—a role which consisted largely of setting program rather than following program. At times they have, to be sure, served as instruments of significant change, as in the use of the West African Examination to change the practice in English Language teaching during the past decade. But the overall record of the examinations is that they have served as anchors to the tedious, not springboards to the possible, and it is likely that this role stems in part from their standardizing function. The time has come for a thorough review of the place they occupy, the contribution they have to make, and the limitations they possess. Certainly the limited ranges of knowledge, neatly circumscribed by traditional academic boundary lines, are not all Africans believe that schooling should mean, and no government should wish to qualify the products of its school system on these limited criteria alone. Educators, perhaps in particular, must also be concerned with re-examining the ethical principles involved; equity in education is not easy to establish, and simplistic practices seldom ensure it. Any system of evaluation—or any system of accrediting individuals—which rests upon a single, one-shot evaluation device has dangers of unfairness deeply ingrained in it. When such evaluations automatically shape the contours of human life as deeply as school examinations shape them in Africa, this element

of unfairness becomes horrendous. Furthermore, when examinations are given in geographic regions characterized by endemic disease, or in malarial zones, only a blind faith in the fair hand of God could justify using them to so judge and determine human lives.

Examinations may, indeed, play a useful role in evaluation, and standard examinations may play a unique role as a corrective for the judgments of school staff and as a means for helping teachers and students chart their courses and measure their achievements and shortcomings. Of the countries in Africa, Liberia is almost alone in asking them to serve this purpose by using its national examination as only one element in determining that a student merits certification. Not only this first step, but also a re-examination of what other elements should go into evaluation of students, is required if a new and more appropriate educational system is to be built. Even these first steps will require great academic courage on the part of ministries and educators, but significant changes in education, like in most spheres of society, not unsurprisingly rest in large part upon acts of courage.

The present examination system is unfortunately cemented in place partly by the salary systems which prevail in Africa. The fact that positions and salaries are largely determined by paper qualifications has provided school certificates of all types with a significance all out of proportion to any reasonable assessment of their merit. Changing the basis for national certification to include qualifications other than examination results might have a healthy effect upon productivity in the work force, and the time has probably come when rewards must be more closely geared to the job to be done and to productivity than to paper qualifications.

The present salary systems not only help cement education to minimally productive styles of learning but also threaten to undermine the economic and academic foundations of African education in the decade ahead. Reforming salary structures is the second hidden priority. Not only do education budgets skyrocket in response to salary structures which were initially inherited from colonial regimes, but the high price tag attached to educational qualifications has already led some of the more economically starved countries to bypass some of their best qualified teaching manpower because of its high price. With manpower unemployable on the visible market, it has been purchased on the "black market" at considerably reduced prices. Possibilities of reform are multiple and incremental scales do not inevitably mean annual increments, nor do increments necessarily come automatically. (The system of "efficiency bars" in scales is not unknown in many African countries.) Such signs of professional growth as taking short courses or outstanding professional contributions to a school can become conditions for entitlement to regular increments rather than automatic grounds for special increments or scales. Without change, it is certain that the present salary system is a recipe for disaster at this juncture in the history of African education.

The reverence paid to examination systems, the stifling tendency to employ formal education chiefly as a preparatory agency for these examinations, and the predilection to use school credentials as *the* fundamental criterion in employing and paying persons in government service underscore a third problem involved in the more effective development of human resources. *In a sense the truly "hidden" priority in African formal education is finding ways in which the profession can help serve the vast number of young Africans who are not in school—especially those children and young persons who have never attended school, or having attended, have dropped out along the way.* Their education is generally seen as a problem for non-formal education, a topic treated in another paper in this series, but if school systems are to make the most effective use of their own capacities for human resource development, the further education of many of these persons is also a problem for the formal system. One of the most crucial tasks which must be faced is how the retrieval of pupils who have passed the normal entry age or who have left school early can be allowed for and, especially, how those of unusual capacity can be brought back into the system and helped in developing that capacity to the utmost. There is good reason to believe, as institutions which have tried mature entry admissions have found out, that programs in at least post-secondary institutions can be enriched rather than impoverished by bringing in persons with considerable practical experience. While study through British correspondence schools leading to accredited certificates of education has been widely used as a retrieval mechanism in English-speaking Africa, both the problem of retrieving those who have dropped out before completing primary school and the problem of giving positive recognition to the store of learnings which can accrue from non-school types of experience need to be recognized and resolved. On the one hand, this requires that schoolmen take a new look at admissions requirements, while on the other it requires that they ask themselves whether there are means whereby school facilities, personnel, and professional expertise might be used to help those of ability and ambition find their way back into the mainstream of formal education. The previously mentioned program for *éducation rurale* in Upper Volta with its older admission age and commitment to retrieval of exceptional pupils, the too infrequent night classes in African cities and community schools, the mature entry admission programs in some universities, and the correspondence school centers in Malawi are the first tentative steps in facing up to this network of problems.

The final priority presents the greatest challenge: this is the impelling need, referred to earlier in respect to primary education, to decide what type of person the new African is intended to be and to derive from this the educational ingredients required to produce that type of person. The new African is clearly not merely to be an economic man, a graduate who can leave school and find a job in the wage-earning economy. Many of the most important contributions of schooling appropriately will have little or nothing to do with this. The day is hopefully past when educators can say, as did the educators who prepared the Nuffield Report on *African Education* only decades ago, that the qualities which the African parent wishes to see in his child are the same as those any good European parent would want in his child. The African parent, and the African state, want many of the same qualities, but, hopefully, they want more and, hopefully, they want even the same general qualities manifested in unique ways. The definition of the new African in behavioral terms will require more than any outsider can see by looking through African doors. This is a discovery and an elaboration which Africans must make for themselves. We can hope that the elaboration will be one which will leave genuine scope for individuality and thereby ensure the richness which individuality and diversity can bring to human life, but we would also recognize that it should be one which will provide sufficient common standards both to avoid anomie and to promote common action in a period of rapid and unsettling social change. This is a task to which *Education for Self Reliance* has made one beginning, but it is a task which must be carried further and in many nations before even the dream which must precede reality can come into being across the continent. Building school programs without the dream is more likely to produce tenements than humane communities.

The Agenda for Action

New decades pose new challenges. Looking to rivers which must still be spanned does not deprive one of the exhilaration which comes from mountains which already have been crossed, and it is with a sense of achievement and the realization that there is much more to be achieved that African educators should look to the 1970's.

This paper has attempted to point to a number of the priority items which should appear on the educational agendas of African states in the decade ahead. They are items which are dictated by the pressure of critical factors in society and economy upon the internal dynamics of educational systems. They therefore require not only the attention of educational leaders and educational institutions but also of governments. The order and pacing of new emphases will depend upon conditions within and outside of the schools: how far the process of providing well-qualified teachers has progressed (an internal determinant of the likelihood of introducing educational change successfully); how much progress has been made in consolidating teachers colleges and providing them with university-educated personnel; how rapidly rural development is progressing, how far each African state has gone in developing its own ideology and its own conception of the kind of citizens it wishes; how far each government has gone in developing its capacity—and its courage—to deal with such residual problems as inherited examination systems or salary structures.

Although it is difficult to speak of all African nations as if they were equidistant from the goal of fulfilling high-level manpower needs, we do feel that the speed of educational development (particularly at the secondary level) has been so rapid that priority in most nations should now rapidly shift from further expansion of the formal education system, except as this might be required by political pressures which cannot be redirected, and focus instead upon providing more appropriate education which will enable schools to perform the multiple purposes which they should perform in society. This will call for giving greater attention to the qualitative dimensions of education, especially where quality is conceived of less in terms of the usual standard definitions of academic excellence (such as pass rates on common examinations) and more in terms of *relevance,* styles of learning and products of learning.

If more appropriate types of education are going to be developed, this will call for creating or supporting institutions which focus rather specifically on the relationship of education to society and economy, for attending to processes by which educational innovations are diffused and become accepted and stabilized, for rethinking the professional component in teacher education programs, and for initiating the preparation of educational administrators and other types of specialized personnel. It may also require a redistribution of educational responsibilities, especially to provide greater responsibility and strength to expanded teachers colleges and to permit Institutes of Education to devote themselves to new or emerging research tasks.

Among the more specific priorities which hold particular promise for developing more appropriate education are the following:

1. *Centers for Educational Innovation and Research need to be created and could be located in existing institutions or as new units with a particular focus on innovation.* Some current Institute research could be relocated in consolidated, upgraded teachers colleges.

2. Closely associated with the Institutes proposed above, *studies should be undertaken of the process of diffusion of educational innovations in African schools:* how directives or policies are translated from the Ministry to the classroom, how innovations proposed or "taught" in the university and/or teachers college classroom are or are not applied in the trainee's subsequent teaching.

3. *Selective programs of educational cooperation, especially in the field of teacher education, need to be fostered or encouraged.* Such programs of educational cooperation might include:

   a. the Association for Teacher Education in Africa, with its inter-regional membership;

   b. regional programs, such as the regional councils, in which mutual problems are mutually researched and information is exchanged; and

   c. linked relationships, in which new teacher education institutions are built up through research and staff development schemes which link newer teachers colleges to one another and to more established institutions.

4. *Programs are needed which will develop teacher commitment and enhance teacher morale through involvement in program development and educational change,* whether such involvement comes through programs operated by ministries, institutes of education, teachers colleges or professional organizations.

5. *The time has come to develop courses for the preparation of the educational leaders (especially educational administrators) who could give leadership in teachers colleges, in more diversified secondary schools, and in schools which are seeking new patterns of relationship between formal education and (a) the surrounding community, and (b) the network of informal educational institutions.* Of roughly commensurate importance is provision for specialist personnel and specialist services (educational guidance, school extension service, follow-up studies) which will be required if programs in diversified schools are to achieve their potential in relating education to the job market and the career destinations of students.

6. *As African professional educators rethink present programs for the education of teachers, they should give special attention to those programs which focus explicitly on enhancing the understanding of national development.* Such programs might include (a) understanding the general problems of development, (b) searching out the relation of education to these general problems, (c) observation (and preferably participation) in programs moving in the direction of relating education more closely to development, and (d) developing competence in inducing and consolidating educational change. In general, the programs meriting special support will be those in which new departures eschew research field divisions of education in favor of programs focusing more specifically on the competencies required of teachers and the process of curriculum and program change.

7. Special resources and training may well be required if there is to be a reasonable chance for success in new programs which attempt to strengthen *non-school or non-formal education through the use of the facilities and personnel of the school and, conversely, experimental programs which attempt to use in the school setting the competence of those who have hitherto worked only in non-formal education* (e.g., as in the proposed continuation courses in Ghana or Self Reliance schools in Tanzania).

8. *Innovative or demonstration programs in primary and secondary schools with some freedom from the constraints imposed by the common examination system* are needed and could possibly be supported through cooperative research agreements between these schools and national universities and/or examinations councils. The crucial ingredient in establishing a climate for experimentation in such schools would seem to be not that examinations be eliminated but that examinations be designed "to reflect rather than dictate program."

9. *Special attention should be given to studying and to conducting programs which capitalize upon the intellectual potential of periods of national service. This could be accomplished through pre-planning which might lead to a student "research" situation which he relates his experience to his general or professional education or through subsequent intellectual analysis.* Otherwise, there is a very real possibility that periods of service will become merely additional pieces in an already disjointed educational career.

10. *The early years of the decade should see a shift in priorities from academic secondary education to teacher education (and thus indirectly to primary education), with particular attention being given to developing new and better programs to prepare teachers for the earliest grades in school.* Actually such positions call for specialist classification, but probably the best that can be hoped for is eliminating the present disesteem in which such positions are held. (Both the foundational character of learning in the first few classes of school for those that go on through the system and the fact that this is the only formal education received by almost half of the pupils who enter the system argue for placing emphasis upon enhancing the quality of education given in the earliest classes of school.)

Finally, African educators as educators elsewhere, must be constantly engaged in the process of building an image of what they can create—what kind of human beings schools should help produce. It is only when this vision is there that other things fall in place. It seems probable, however, that as this vision emerges more clearly, many inherited and even respected practices will be seen as impediments to achieving it, and old practices will have to give way to new. Hopefully, the recognition that the common examination system as presently employed is one such practice will come early rather than late. Multiple means of evaluation, suitable to the multiple purposes of a school in a developing country, could open doorways to exciting local innovations, doorways which today seem so securely barred and locked.

FOOTNOTES

1. In vocational education, where target figures have frequently not been met, it is increasingly recognized that the products of schools fail to fit into jobs for which they were ostensibly prepared.

2. For a comparison of the rate of increase in GNP per capita and recurrent expenditures on education per capita, see Frederick Harbison, *A Human Resource Approach to the Development of African Nations,* Overseas Liaison Committee, American Council on Education, March 1971, p. 9.

3. The initial results reported by Alex Inkeles from the Harvard Project on Social and Cultural Aspects of Development indicate that schools have more impact upon the formation of modern attitudes than any other modern institution. Various stages of the Harvard Project can be consulted in different publications: the initial conceptual framework may be found in Alex Inkeles *The Modernization of Man,* in Myron Weiner (ed.), *Modernization: The Dynamics of Growth,* New York, Basic Books, 1966, pp. 138–150; a lucid presentation of the measure used for attitudinal modernity, the OM Scale, is David Horton Smith and Alex Inkeles, "The OM Scale: A comparative Socio-Psychological Measure of Individual Modernity," *Sociometry,* Vol. 29, No. 4 (December 1966), pp. 353–377; the initial data report, referred to above, is found in Alex Inkeles, "Participant Citizenship in Six Developing Countries," *The American Political Science Review,* Vol. 63, No. 4 (December 1969), pp. 1120–1141.

4. Guy Hunter, *The Best of Both Worlds,* London, Oxford University Press, 1967; and William Hance, *Population, Migration and Urbanization in Africa,* New York, Columbia University Press, 1970.

5. Albert J. McQueen, "Aspirations and Problems of Nigerian School Leavers," *Inter-African Labour Institute Bulletin,* Vol. 12, No. 1 (February 1965), pp. 35–51; J. D. Heinjen, *Development and Education in the Mwanza District (Tanzania): A Case Study of Migration and Peasant Farming,* Rotterdam, Bronder–Offset, 1968.

6. F. B. Waisanen, "Education and Participation in Development," *Acta Sociologica* (forthcoming 1971).

7. John W. Hanson, *The Supply of Secondary Level Teachers in English-Speaking Africa: Ethiopia,* East Lansing, Institute of International Studies in Education, Michigan State University and Overseas Liaison Committee, 1970, pp. 20–24.

8. Guy Hunter, *op. cit.,* pp. 52, 56–61.

9. Philip H. Coombs, *The World Educational Crisis,* New York, Oxford University Press, 1968.

10. William Hance, *op. cit.*

11. Three companion papers to the present one are also being prepared by the Overseas Liaison Committee. The first of these by Professor Frederick H. Harbison, entitled "A Human Resource Approach to the Development of African Nations," was published in April 1971. The second paper, which will deal with rural development, is being written by Carl Eicher and the final paper on African higher education will appear later in the spring.

12. For general discussions of this topic, see James S. Coleman (ed.), *Education and Political Development,* Princeton, Princeton University Press, 1965; David B. Abernethy, *The Political Dilemma of Popular Education: An African Case,* Stanford, Stanford University Press, 1969; and L. Gray Cowan, *The Cost of Learning: The Politics of Primary Education in Kenya,* New York, Institute of International Studies, Teachers College, Columbia University, 1970.

13. Cowan, *op. cit.,* pp. 73–82.

14. For the problem in Kenya, see Kyale Mwendwa, "Constraint and Strategy in Planning Education," in James R. Sheffield (ed.), *Education, Employment and Rural Development,* Nairobi, East African Publishing House, 1967, pp. 278–79. The problem is also treated in a number of the reports in the Overseas Liaison Committee survey *The Supply of Secondary Level Teachers in English-Speaking Africa,* see particularly the reports on Ghana, Uganda and Sierra Leone.

15. Mwendwa, *op. cit.,* p. 279.

16. David B. Abernethy, *op. cit.* The Nigerian case is only an extreme example of the problem prevailing in a number of African countries.

17. *Ibid.*, pp. 255-56. See also Penelope Roach, *Political Socialization in the New Nations of Africa,* New York, Institute of International Studies, Teachers College, Columbia University, 1967.

18. The decline in primary school enrollments in Eastern Nigeria in the period prior to the Nigerian Civil War may in part be attributed to a decline in popular demand, although the high fees charged in upper primary were also contributory in this case.

19. One of the few serious attempts to approach this problem has been made at the Swaneng Hill School in Botswana; see Patrick Van Rensburg, *Education and Development in an Emerging Country,* Upsala, The Scandinavian Institute of African Studies, 1967.

20. For a discussion of the direct professional involvement of teachers in planning based upon an extensive survey of teachers in Zambia, including expatriate teachers, see David Stannard, *The Supply of Secondary Level Teachers in English-Speaking Africa: Zambia,* East Lansing, The Institute for International Studies in Education, Michigan State University and the Overseas Liaison Committee, 1970.

21. Inkeles, "Participant Citizenship in Six Developing Nations."

22. Fred Waisanan and Hideya Kumata, "Education, Functional Literacy and Participation in Development." Paper presented at the Society for Applied Anthropology Meeting, Mexico, 1968.

23. Cowan, *op. cit.*, pp. 80–81.

24. Rates of attrition may be approximated through their opposite, crude rates of retention. The following table illustrates the extreme difference in most countries between the percentage of primary grade 1 enrollment retained in the early and later primary grades. In order to achieve widespread effects on a population through the school system, programs must be aimed at the earliest years of the primary schools. In Cameroon, Chad, Congo (B) and Ethiopia, the second grade enrollment is about half of first grade enrollment. In all but three countries, Uganda, Senegal and Ghana, grade five enrollments are approximately one-half or less of grade one enrollments without making any adjustment for repeaters. Furthermore, when the total primary enrollment ratio is low, less than 50 per cent in two-thirds of the countries listed here, the change producing effect of the school system is further ameliorated. (See Table 7, page 31.)

25. C. E. Beeby, *The Quality of Education in Developing Countries,* Cambridge, Mass., Harvard University Press, 1966.

26. The program in Upper Volta involves half a day given over to classroom studies in which content in skill subjects (especially language) is related to the rural area and the other half day to practical, modern farming. Pupils are those who have passed the entry age for the regular primary schools. Early results indicated considerable success in meeting or surpassing grade-level standards in school subject matter. After a considerable period of evolution, the United Arab Republic moved to a system of rural schools which I have described elsewhere as follows: "This has come about through the creation in some three hundred rural areas of combined social units—consisting of hospitals, agricultural extension centers, social welfare centers and rural schools—in an attempt to create a new composite-type social institution really designed to deal with the full range of rural needs." John W. Hanson, *Imagination and Hallucination in African Education,* East Lansing, Institute for International Studies in Education, 1965, pp. 38–39.

27. C. E. Beeby, *op. cit.*

28. The "multiplier" effect of a given expansion of a country's teacher training program upon the output of the school system is illustrated hypothetically in Table 8 which follows on page 32.

TABLE 7. CRUDE RATES OF RETENTION IN PRIMARY SCHOOLS IN SELECTED AFRICAN COUNTRIES

COUNTRY	Period	Primary Enrollment Ratio[2]	Successive Primary Grade Enrollments as a Percentage of Primary Grade 1 Enrollment[1] (Primary Grade 1 = 100)					
			Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7 or Secondary Form I
CAMEROON	1958-62	82	59	44	39	38	–	–
CHAD	1962-67	31	44	36	29	24	32	–
CONGO (B)	1965-71[3]	155	51	32	24	17	13	3
ETHIOPIA	1961-66	12	54	43	37	–	17[3]	–
GHANA	Typical[4]	90	79	72	66	60	56	48
KENYA	1956-62	60	94	85	58	33	30	29
LESOTHO	1961-67	105	64	61	45	36	29	18
MALAWI	1958-65	33	65	39	30	35	27	29
NIGER	1963-69	14	92	75	60	56	60	10
SENEGAL	Typical[4]	47	97	88	82	78	90	–
SIERRA LEONE	Typical[4]	30	71	70	59	51	44	42
TANZANIA	1961-67	38	95	97	94	44	43	42
UGANDA	1963-68	46	82	81	77	70	66	–

– = Data not available.

Source: The Education Projects Department, International Bank for Reconstruction and Development (World Bank), Washington, D.C.

1. No correction has been made for repeating or returning students. Percentages greater than those of a previous year are probably due to these factors.
2. Total Adjusted Primary Enrollment Ratio for 1967 or the latest year available. See the ***Unesco Statistical Yearbook,*** 1969 edition, pp. 68-77.
3. Projection or Estimate.
4. Computed average rates for recent years.

TABLE 8. THE TEACHER EDUCATOR MULTIPLIER*

a. The effect of one additional teacher educator in one decade.

Year	Additional Primary Teachers with Training (Cumulative)	Additional Pupil Years Under Trained Teachers (Cumulative)	Primary Graduate Equivalents Under Trained Teachers (Cumulative)
1	0	0	0
2	0	0	0
3	15	0	0
4	30	600	100
5	45	1,800	300
6	60	3,600	600
7	75	6,000	1,000
8	90	9,000	1,500
9	105	12,600	2,100
10	120	16,800	2,800

b. The effect of ten additional teacher educators in one decade.

1	0	0	0
5	450	18,000	3,000
10	1,200	168,000	28,000

*Assumptions and definitions:

1. The pupil to teacher (teacher educator) ratio in teachers colleges is 15:1.
2. The primary level pupil to teacher ratio is 40:1.
3. The teacher education course is two years, and at the end of the course all newly qualified teachers begin and continue teaching without interruption.
4. There is no attrition of teachers.
5. Six pupil years under trained teachers are equal to one primary graduate equivalent under trained teachers.
6. All relationships given remain constant.

29. The Association for Teacher Education in Africa is now addressing itself to this problem and may provide important leadership as well as substance for efforts and innovations for its resolution.